

## Wind farms could supply planet's power

In-shore wind farms could on their own supply more than 40 times all the electricity consumed in the world, according to experts.

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Even operating at just a fifth of their full capacity, a global network of 2.5 megawatt wind turbines sited away from urban centres would easily meet global electricity demands, a study suggests.

Currently only a fraction of energy is supplied by wind power, even in the UK which is considered the windiest country in Europe.

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In 2007 wind energy overtook hydropower to become Britain's largest renewable generation source. However, it still only contributed 2.2 per cent of the UK's electricity supply.

The Government has set a target of meeting 15 per cent of all the UK's energy demands from renewables by 2020, which means between 35 per cent to 45 per cent of electricity will have to come from green sources. Most of this is expected to be generated by wind farms.

For the new study, a team of international scientists led by Professor Michael McElroy at Harvard University in the US, divided the world into areas of around 3,300 square kilometres.

They then identified regions that would be suitable for wind farms.

The scientists worked out the potential for wind power electricity generation based on wind speed, air density, the spacing of turbines, and the size of turbine blades.

The findings are published in the journal *Proceedings of the National Academy of Sciences*.

The researchers concluded: "The analysis suggests that a network of land-based 2.5 megawatt turbines operating at as little as 20 per cent of rated capacity, confined to non-forested, ice-free regions would be more than sufficient to account for total current and anticipated future global demand for electricity.

"The potential for the contiguous US could amount to more than 16 times current consumption. Important additional sources of electricity could be obtained by deploying wind farms in near-shore shallow water environments."

Nick Rau, of Friends of the Earth, said: "This is further evidence of the huge role that wind power can play in cutting climate-changing emissions and meeting our energy requirements.

"The report also highlights the UK's huge wind power potential, one of largest in the world, and suggests it could easily supply our electricity needs many times over.

"The Government must reap the economic and environmental rewards from developing green energy by urgently tackling the barriers that prevent wind energy from taking off, and make this country a world leader in developing a clean and prosperous low-carbon economy."